PRESS RELEASE

Fraunhofer IPMS assumes central role as link between microelectronics and quantum technologies

Launch of Saxon Research Network for Quantum Technologies (SAX-QT)

With the official launch of the Saxon Research Network for Quantum Technologies (SAX-QT), leading research institutions and universities in Saxony are pooling their expertise to create a powerful quantum ecosystem "Made in Saxony." The aim is to translate the latest research results into industrial applications more quickly and establish the Free State as a leading location for quantum innovations. The Fraunhofer Institute for Photonic Microsystems IPMS is taking on a central coordinating role within the network. As a link between microelectronics, semiconductor technology, and quantum technologies, IPMS is contributing its many years of expertise in application-oriented research, industrial cooperation, and technology transfer.

The SAX-QT network, also known as QUANTUM Saxony, links Saxony's cutting-edge research in the fields of quantum computing, quantum sensor technology, and quantum materials with the state's industrial development and manufacturing expertise. Joint research and development projects, workshops, and continuing education programs specifically strengthen the exchange of knowledge between science, industry, and the promotion of young talent.

The network promotes interdisciplinary cooperation, combines basic research and industrial implementation, utilizes existing clusters of excellence and European funding programs, such as the European Chips Act, and thus makes a decisive contribution to Germany's technological sovereignty. At the same time, SAX-QT supports the training and qualification of highly specialized professionals, thereby sustainably strengthening the innovative power of Saxony as a center of research and business.

Fraunhofer IPMS: Key player in the transfer "from lab to fab"

Fraunhofer IPMS plays a central coordinating role within SAX-QT. As an interface between microelectronics, semiconductor technology, and quantum technologies, Fraunhofer IPMS contributes its many years of experience in application-oriented research, industrial cooperation, and technology transfer. IPMS's expertise enables a fast track "from lab to fab," i.e., from the research laboratory to industrial production. This allows scientific findings to be directly translated into market-ready solutions, making Fraunhofer IPMS a key driver of the network.

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"Our industry-grade clean room enables us to test new quantum materials and components under real production conditions and transfer them to pilot production," says Dr. Benjamin Lilienthal-Uhlig, Head of Next Generation Computing at Fraunhofer IPMS. "This is a unique selling point that significantly strengthens Saxony's innovative power. Start-ups and small to medium-sized companies in particular benefit from the fact that we can offer them pilot production at the wafer level."

In SAX-QT, Fraunhofer IPMS combines its expertise with partners from science and industry, including Infineon, GlobalFoundries, RWTH Aachen University, imec, CEA-LETI, VTT, and Forschungszentrum Jülich. This creates synergies along the entire innovation chain – from basic research and technology development to industrial application.

Strengthening technological sovereignty

"By pooling regional expertise and directly transferring research results into pilot production, SAX-QT is making a lasting contribution to the technological sovereignty of Saxony and Germany in the field of quantum technologies. In this way, we are positioning Saxony as a leading location for quantum technologies in the long term," says Lilienthal-Uhlig.

Funding and partner structure

The development phase of SAX-QT will be funded by the European Regional Development Fund (ERDF) of the Free State of Saxony until the end of 2027. The network is jointly coordinated by the Zittau/Görlitz University of Applied Sciences (HSZG), Fraunhofer IPMS, Fraunhofer IWU, and the Leibniz Institute for Solid State and Materials Research Dresden (IFW Dresden). SAX-QT sees itself as an open network that actively involves other partners from science, industry, and start-ups.

The **Fraunhofer-Gesellschaft**, headquartered in Germany, is one of the world's leading organizations for applied research. It plays a major role in innovation by prioritizing research on cutting-edge technologies and the transfer of results to industry to strengthen Germany's industrial base and for the benefit of society as a whole. Since its founding as a nonprofit organization in 1949, Fraunhofer has held a unique position in the German research and innovation ecosystem. With nearly 32,000 employees across 75 institutes and legally independent research units in Germany, Fraunhofer operates with an annual budget of €3.6 billion, €3.1 billion of which is generated by contract research — Fraunhofer's core business model.

About Fraunhofer IPMS

Fraunhofer IPMS is a leading international research and development service provider for electronic and photonic microsystems in the application fields of Smart Industrial Solutions, Bio and Health, Mobility as well as Green and Sustainable Microelectronics. Research focuses on customer-specific miniaturized sensors and actuators, MEMS systems, microdisplays and integrated circuits as well as wireless and wired data communication. Services range from consulting and design to process development and pilot series production. With the Center Nanoelectronic Technologies (CNT), Fraunhofer IPMS offers applied research on 300 mm wafers for microchip producers, suppliers, device manufacturers and R&D partners.

Images

The partners of the SAX-QT network at the kick-off meeting.
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